

directing the light propagating from the concave mirror through the second imaging system; and

forming an image of the reticle on the substrate with the second imaging system, wherein the single-pass lens group includes from objectwise to imagewise, a first negative lens subgroup, a positive lens subgroup, and a second negative lens subgroup, and the double pass lens group includes the concave mirror.

**REMARKS**

**INTRODUCTION:**

In accordance with the foregoing, claim 58 has been amended to correct a typographical error without narrowing the scope of the claim. No new matter is being presented, and approval and entry of the foregoing amendment is respectfully requested.

Claims 1-58 are pending and under consideration. Reconsideration is requested.

**REJECTION UNDER 35 U.S.C. §102:**

In the Office Action at page 4, the Examiner rejects claim 58 as anticipated under 35 U.S.C. §102(b) in view of Friedman (U.S. Patent No. 4,779,966). This rejection is respectfully traversed and reconsideration is requested.

The Examiner asserts that FIG. 4 of Friedman discloses a method for projecting a pattern from a reticle onto a substrate using first and second imaging systems as recited in claim 58. By way of review, Friedman discloses an optical system that produces an image of a real object O. Light from the object O passes through a doublet 15, positive elements 11a to 11e, a Schupmann field lens 12A and 12B, and a Schupmann negative element 13 to a spherical mirror 18. The light is reflected from the spherical mirror 18 back through the Schupmann negative element 13 to form the image at an image plane 30. Friedman does not disclose that an

additional lens system is used to form the image at the image plane 30, or that an image is formed between lens systems. Instead, as discussed in Friedman at col. 1, lines 9-13, a silicon wafer is disposed at the image plane 30 in ring-field systems such as that disclosed in FIG. 4. (Col. 1, lines 48-52). Thus, Friedman discloses using the device in FIG. 4 alone to project images onto a silicon wafer, and does not suggest that additional devices are needed to perform this function.

In contrast, method claim 58 recites use of a first and a second imaging system. The first imaging system includes a single pass lens group, a double-pass lens group, and a concave mirror. The first imaging system forms an intermediate image of a pattern between the first imaging system and the second imaging system. Specifically, the light is propagated from the concave mirror through the second imaging system, and the second imaging system forms an image of a reticle on a substrate. As such, it is respectfully submitted that Friedman does not disclose a method including “with the first imaging system, forming an intermediate image of the pattern between the first imaging system and a second imaging system,” “directing the light propagating from the concave mirror through the second imaging system,” and “forming an image of the reticle on the substrate with the second imaging system” as recited in claim 58.

On page 4, the Examiner states that claim 58 is rejected in view of 35 U.S.C. §102(b), but that the rejection is a rejection of obviousness under 35 U.S.C. §103. It is assumed that this statement is in error since the Examiner has not suggested a combination of devices in the prior art, but instead relies on FIG. 4 of Friedman. However, if this assumption is in error, it is further respectfully submitted that the Examiner has not shown a method in Friedman or the additional prior art that fully discloses and provides a motivation to make the combination to provide a method as recited in claim 58 as to maintain a prima facie obviousness rejection of claim 58 under 35 U.S.C. §103.

**REJECTION UNDER 35 U.S.C. §251:**

In the Office Action at pages 2-4, the Examiner rejects claims 1-58 as being based upon a defective reissue declaration. Specifically, the Examiner asserts that the declaration is defective for the following reasons:

- A. the error relied upon is not an error upon which a reissue can be based since the Examiner asserts that the new claims are narrower than the original patent claims through the recitation of the term "dioptric";
- B. the new claims present additional features and that no linking claim exists to provide a unity of invention with regard to claims 1-57; and
- C. new claim 58 is not a linking claim since it is not an *allowable* linking claim.

This rejection is respectfully traversed and reconsideration is requested.

**A. Examiner Has Not Provided Evidence That The New Claims Are Purely Narrower**

On page 2 of the Office Action, the Examiner asserts that the use of the term "dioptric" makes the newly presented claims necessarily narrower than the original patent claims. Specifically, the Examiner asserts that new claim 27 is narrower than the existing claims by at least the recitation of the term "dioptric." However, it is unclear how the mere addition of the term "dioptric" to a feature of new claim 27 necessarily narrows the overall scope of new claim 27 to be narrower than the original patent claims.

By way of review, new claim 27 recites "a dioptric imaging sub-system arranged in an optical path between said catadioptric imaging optical sub-system and the substrate to re-image the image formed by said catadioptric imaging optical sub-system, said dioptric imaging sub-system comprising a second optical axis." In contrast, original patent claim 1 recites "a second imaging system that receives the light reflected by the first turning mirror and that re-images the intermediate image to form a final image of the illuminated region of the reticle on the substrate."

Even assuming arguendo that the dioptric imaging sub-system recited in new claim 27 is narrower than the second imaging system recited in original patent claim 1, it is respectfully submitted that this assumed narrowing of a single feature does not render the overall scope of new claim 27 narrower than the overall scope of original patent claim 1.

Further, new claim 27 recites "a catadioptric imaging optical sub-system comprising an optical group to form an image of the pattern, the optical group comprising a concave mirror with a first optical axis." This limitation is significantly broader than the recited first imaging system of original patent claim 1, which recites a specific catadioptric system comprising, "in order from the reticle and along an optical axis of the first imaging system,

(a) a single-pass lens group comprising a first negative subgroup, a positive subgroup, and a second negative subgroup, and

(b) a double-pass lens group comprising a concave mirror,

wherein light from the illuminated region of the reticle

passes through the single-pass lens group and the double-pass lens group,

reflects from the concave mirror, and

returns through the double-pass optical group."

As such, the catadioptric imaging optical sub-system recited in new claim 27 is clearly much broader than that recited in original patent claim 1 due at least to new claim 27 not reciting the specific groupings of lenses and the path of the light within the catadioptric imaging optical sub-system.

As a general matter, a broadening reissue requires that the scope of the newly presented claims be broader than the scope of the original patent claims. Further, a newly presented claim in a reissue may still be deemed broader than the original patent claim where the newly

presented claim is narrower in some aspects, but broader in other aspects. As noted by MPEP 1412.03, the test for whether a newly added claim is broader than the original patent claims is whether the "newly added claim in the reissue contains within its scope any conceivable apparatus or process which would not have infringed the patent."

It is noted that MPEP 1412.03 does not discuss a requirement that the features not be separate. For instance, MPEP 1412.03 states that, "where the original patent claims only the process, and the reissue applications adds (for the first time) product claims, the scope of the claims has been broadened." It is for this reason that claims to computer software are considered broadening claims where the original patent only had claims drawn to a process or a machine. In each of these cases, the claims are necessarily drawn to different features not otherwise claimed in the original patent. Thus, there is no exception in the statute or the MPEP to explain the Examiner's position that the newly presented claims are narrower merely because "all newly presented claims include separate features from all of the patent claims."

Under the standard specified in MPEP 1412.03, even assuming arguendo that new claim 27 is narrower than claim 1 with regard to the dioptric imaging sub-system, new claim 27 is much broader than original patent claim 1 with regard to the catadioptric imaging optical sub-system. For instance, a catadioptric imaging optical system comprising a catadioptric imaging optical sub-system lacking either the single pass or the double pass lens groups, but having an optical group with a concave mirror and a first optical axis and a dioptric imaging sub-system would likely literally infringe new claim 27, but would likely not literally infringe original patent claim 1 or the remaining patent claims. Thus, it appears that claim 27 meets the standard outlined in MPEP 1412.03 since new claim 27 "reads on something which the original claims do not."

As the Examiner has not provided additional evidence that new claim 27 and the other newly presented independent claims are narrower than the original patent claims, and since

there is no support for the Examiner's position that newly presented claims having separate features are necessarily narrower than the existing claims, it is respectfully submitted that the declaration is deemed proper due at least to its properly relying on an error in that the original patent claims were unduly narrow.

Further, it is also noted that the Examiner has not addressed the breadth of new claim 58, which is clearly broader than the existing claims. As such, it is also respectfully submitted that the declaration is deemed proper due at least to claim 58 being broader than any of the original patent claims.

**B. The Examiner Has Improperly Required The Use Of A Linking Claim When No Linking Claim Is Required By 35 U.S.C. §251 Or In Relevant Case Law**

On pages 2-3 of the Office Action, the Examiner states that there is no linking claim indicating a unity of invention, and that the newly presented claims are directed to separate features of the invention. The Examiner points to Suenaga et al. (U.S. Patent No. 5,668,673) as evidence that, but for the "dioptric" limitation, the newly presented claims would be anticipated by the disclosed invention in FIG. 7 of Suenaga et al. As such, the Examiner is of the belief that the newly presented claims are directed to subject matter entirely distinct from anything earlier claimed, attempted, or intended to be claimed. According to the Examiner, to hold otherwise would be to render the holding of In re Weiler, 229 USPQ 673 (Fed. Cir. 1986) meaningless since it would have no force.

As a point of clarification, the unity of invention between the newly presented claims and the original patent claims is not the standard by which the "intent to be claimed" is measured. Instead, the intent to be claimed requirement is generally discussed in MPEP 1412.01, which states that claims "presented in a reissue application are considered to satisfy the requirement of 35 U.S.C §251 that the claims be 'for the invention disclosed in the original patent' where: (A) the claims presented in the reissue application are described in the original patent specification

and enabled by the original patent specification such that 35 U.S.C 112 first paragraph is satisfied; and (B) nothing in the original patent specification indicates an intent not to claim the subject matter of the claims presented in the reissue application."

The Examiner relies upon In re Weiler, et al., 229 USPQ 673 (Fed. Cir. 1986) as supporting the proposition that there must be a unity of invention. It is respectfully noted that this reliance appears misplaced. Specifically, subsequent case law, such as In re Amos, 21 USPQ2d 1271 (Fed. Cir. 1991), has effectively eviscerated the interpretation proffered by the Examiner. To the extent that the official policy of the U.S. Patent and Trademark Office recognizes that In re Weiler, et al. is no longer the current state of the law, it is noted that In re Weiler, et al. is not even referenced in any portion of the MPEP. Instead, as also recognized in the MPEP 1412.01, the state of the law is as explained above.

While the Examiner may disagree with the current state of the law, it is also noted that the MPEP "contains instructions to examiners, as well as other material in the nature of information and interpretation, and outlines the current procedures *which the examiners are required or authorized to follow in appropriate cases in the normal examination* of a patent application." (Foreword of MPEP) (italics added). As such, the MPEP provides the statutory authority that allows the Examiner to act in an application on behalf of the U.S. Patent and Trademark Office. See, In re Fressola, 22 USPQ2d 1828 (ComrPats 1992) (Examiner acted within statutory authority since the Examiner followed the requirements of the MPEP and since the MPEP is not *ultra vires* in interpreting the relevant statutes and case law). To the extent that the Examiner's statements are contrary to the instructions contained in the MPEP, it is noted that the Examiner's is acting *ultra vires* as acting outside of the authority granted by the Commissioner. To this extent, the statements and interpretations of the Examiner's in rejecting the claims based upon an interpretation of In re Weiler, et al. that contravenes the MPEP are

considered void. See, generally, Federal Crop Ins. Corp. v. Merrill, 332 U.S. 380 (1947) (statements of government employee acting outside of his authority not binding and unenforceable as not authorized by statute).

To the extent that the Examiner's position is consistent with the MPEP, it is noted that In re Weiler, et al. presented a situation where an applicant in a reissue application attempted to add claims that, during the pendency of the application, had been restricted from the application. The Court held that, since the applicant failed to timely file a divisional application during the pendency of the application, the applicant was not allowed to cure this error in a reissue application since, as evidenced by the restriction requirement, the reissue application was not directed to the same invention. In re Weiler is therefore consistent with In re Amos, 21 USPQ2d 1271 (Fed. Cir. 1991) in not allowing a reissue claim drawn to a different invention in cases where evidence exists in the record that the inventions are different. However, as stated in In re Amos, the intent to claim the same invention "has little to do with 'intent' per se, but rather is analogous to the requirement of §112, first paragraph that the specification contain a "written description of the invention .... It is ... synonymous with 'right to claim.'" In re Amos, 21 USPQ2d at 1274. It is from this later case that MPEP 1412.01 appears to derive its test, which notably does not require a unity of invention, but merely that the written description support the claims and that there be no indication that the inventor did not consider the newly presented claims to be drawn to a different invention.

As such, even assuming *arguendo* that there is no "linking claim," in order to show that there was no intent to claim the same invention, the Examiner must show that the newly presented claims are not enabled by the specification, and that the specification discloses an intent not to claim the subject matter. Since the Examiner has shown neither, it is respectfully submitted that the newly presented claims are in compliance with the requirements of 35 U.S.C.



of §251.

C. The Examiner Has Not Shown That Claim 58 Is Not Allowable

On pages 3-4, the Examiner asserts that new claim 58 is not available as a broadening claim since it is not allowable. In essence, the Examiner argues that, in order to obtain a broadening reissue, the Applicant must provide a broadening claim that both qualifies as a linking claim and is allowable. Assuming arguendo that the Examiner's test is correct, as discussed above, it is respectfully submitted that claim 58 is allowable over the prior art. Therefore, it is respectfully submitted that declaration and the newly presented claims are in compliance with the requirements of 35 U.S.C. of §251 due at least to new claim 58 being purely broader than any original patent claim and providing an allowed linking claim.

**CONCLUSION:**

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. And further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited and possibly concluded by the Examiner contacting the undersigned attorney for a telephone interview to discuss any such remaining issues.

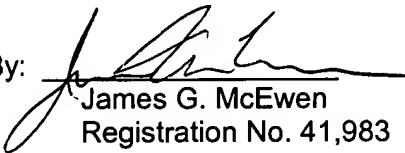
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If there are any additional fees associated with the filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

By:   
James G. McEwen  
Registration No. 41,983

700 Eleventh Street, N.W.  
Suite 500  
Washington, D.C. 20001  
Telephone: (202) 434-1500  
Facsimile: (202) 434-1501

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